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Making space for fish: the regional, network and fluid spaces of fisheries certification

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Christopher Bear & Sally Eden

ABSTRACT

In this paper, we examine the multiple spatialities of Marine Stewardship Council (MSC) certifications. The MSC uses its ecolabelling scheme to promote sustainable fisheries management; its logo may be used on the products of certified fisheries. The certification process involves the definition of a 'fishery'. This involves the designation of boundaries around a particular location. While these boundaries suggest exclusivity for each fishery, these regional spaces are also entwined in the MSC's network, whereby they are viewed relationally. The utility of areal boundaries is also rendered problematic by the materiality of the seas: coastlines change, fish swim, water moves and ships travel. To operate its scheme successfully, the MSC has to recognise this spatial fluidity, acknowledging the rupture of boundaries and the movement of actors. We argue that attention to a multiplicity of spatialities helps direct attention to the role of non-humans in the acting out of hybrid geographies.

KEY WORDS: Marine Stewardship Council, fisheries certification, boundaries, actor-network theory, fluid spaces, hybrid geographies

INTRODUCTION

Seas and oceans are fluid spaces: their boundaries change as cliffs erode and rivers deposit new sediment, creatures and plants move within them, and humans and commercial goods are transported across them. Oceans are not merely voids between the lively landmasses that adjoin them but are themselves lively spaces and spaces of movement. However, political, touristic, military and productionist uses of the oceans have brought with them processes of stabilisation (Latour 1987: 219–223; Law 1986; Mansfield 2004; Steinberg 2001), where various actors have attempted to contain and control the fluidity. Human geographers, though, have been surprisingly silent in analysing ocean spaces (Lambert, Martins and Ogborn 2006; Steinberg 1999, 2001).

In this paper, we address this silence through one particular attempt at controlling ocean space—certification of fisheries as 'sustainable and well-managed' by the Marine Stewardship Council (MSC). The Thames-Blackwater Herring Drift-net Regulatory Area was

certified in this way in 2000. A map of it (Figure 1) is striking for its straight lines and 908 angles that bear little relation to the coastline, the sea bed, the distribution and movement of fish, or the fluidity of the water itself. These lines strictly define the areas in which fishing has been certified as sustainable. But how far can these strict cartographic boundaries deal with the essential fluidity of seas and oceans? How far do the cartographic boundaries demarcate and control the actors and activities of interest to the MSC? Looking at two MSC certifications—the Thames herring and Alaskan salmon fisheries—our analysis highlights some of the ways in which such cartographically bounded spaces are insufficient for understanding the processes that are taking place. Rather, we follow Mol and Law (1994: 644) in attending to the multiplicity and fluidity of spatialities to examine more deeply the role of non-humans in fisheries certification and, thus, begin to address the silence towards the oceans through recognition of 'hybrid geographies' (Whatmore 2002).

A small, though increasing, academic literature has analysed the MSC, looking especially at its credibility (e.g. Bostrom 2006) and its role as a global non-governmental organisation (NGO) in the governance of fisheries and oceans (e.g. Constance and Bonanno 1999, 2000). Such work has often focused on the relationship between NGOs and nation states in ocean governance but here, following Jones (2000), Connery (2006) and Lambert, Martins and Ogborn (2006), we argue that it is important that the oceans and fish themselves are not forgotten. To certify fisheries, the MSC needs to represent (or translate) a wide variety of actors into its hybrid networks and to demarcate ocean spaces as certifiable. By looking at how regional, network and fluid spaces are enacted (Law 2002: 96) in the case of MSC certification, we show how different spaces may be mutually constitutive, and argue that the inherent fluidity of the certifications may be seen as a strength, rather than a failing, of the MSC. We therefore focus upon not merely institutions of policy and governance but on ocean spaces.

The next section explores both how actor-network theory (ANT) has attempted to involve non-humans in a more relational and symmetrical ontology, and also the insufficiency of an actor-network approach. Subsequent sections outline the MSC itself and examine two of its certifications in detail, through Mol and Law's (1994) categories of regional, network and fluid spaces. The final section discusses the implications of these spatial understandings for the success of the MSC and for understanding the role of nonhuman actants in certification.

HYBRID NETWORKS, FLOWS AND REGIONS

An expanding body of work in geography, anthropology and sociology is concerned with how humans and non-humans relate to each other, seeking new ways of thinking about a more-than-human relational politics, most notably through an engagement with ANT (e.g. Cloke and Jones 2001; Hitchings 2003; Murdoch 1997; Thrift 1996;Whatmore 2002; Woods 1998). These ontological manoeuvres have provoked new understandings of the ways in which humans, animals, plants and other actors and intermediaries come together in variously defined flows and networks, and of the extent to which non-humans can be

regarded symmetrically with humans. Some argue that non-humans cannot be treated in the same way as any dissent is not 'conscious' (Woods 1998: 335) and that they are 'indifferent' to classifications (Hacking 1986; cited in Murdoch 2001: 124). Others, however, are more positive. Wolch (2002: 734), for instance, goes as far as to suggest that 'animals themselves' could be included in a new radical urban democracy.

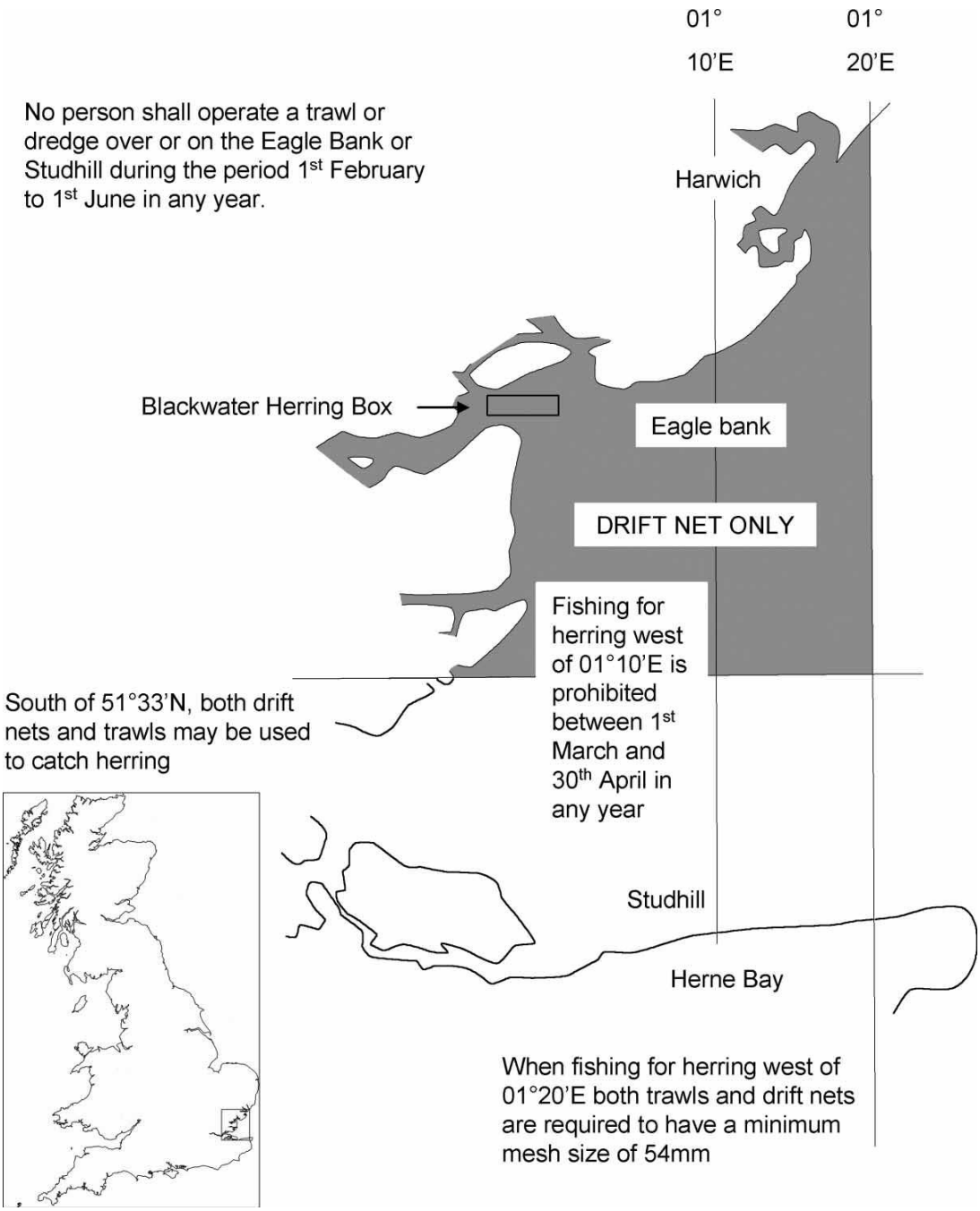

Figure 1 The Thames-Blackwater Herring Drift-net Regulatory Area (adapted from Nichols, Huntington and Hough 2005: 10).

Lulka (2004: 448) has addressed this issue of understanding animals more on their own terms, contending that bison management in Yellowstone National Park is directed at saving a resource that is often based on a static, genetic definition of the animal population, ignoring the movements of the animals concerned and, therefore, blocking 'the potential of individuals to inhabit the landscape on their own terms' (2004: 449). He suggests that the idea of 'population' is somewhat redundant: 'a population that remains constant in numbers but nevertheless changes its geographical distribution, its boundaries, and its densities is no longer the self-same population' (2004: 451). In other words, basing management strategies on the identification of a particular set of attributes ignores the ways in which the animals live their lives and is a poor basis for management. An interest in this paper is similar: how are boundaries employed by the MSC to affect sustainable fish harvesting, and how do these boundaries relate to the actions and interactions of the fish themselves?

Here, we take a novel theoretical turn as we deal with ocean space (in the Euclidean sense) rather than with Lulka's terrestrial space. Also, we deal not just with vessels travelling across the ocean surface (Law 1986) but also with fish, often travelling untracked by humans beneath the surface. Fish and other water-dwelling animals have remained conspicuously absent from work on human–animal relationships (though see Callon 1986; Cloke and Perkins 2005; Einarsson 1993; Jones 2000; Mansfield and Haas 2006).While some geographers have been critical of a focus in ANT studies on very active actors, our consideration of fish and water allow us to 'address the more passive involved parties' (Hitchings 2003: 108).

To address these parties, we use Law and Mol's (2001: 613) three types of space. For them, 'regional spaces' are characterised by objects that have been clustered together within boundaries (Mol and Law 1994: 643). These regional spaces suppress difference and encourage uniform treatment of the objects within them. 'Network spaces' are not defined by boundaries but by relationships, where 'distance is a function of the relations between the elements and difference a matter of relational variety'(Mol and Law 1994: 643).Networks, in other words, fold Euclidean space, potentially bringing the distant close and rendering the close distant. Mol and Law (1994: 643) argue that a third kind of space exists, where: neither boundaries nor relations mark the difference between one place and another. Instead, sometimes boundaries come and go, allow leakage or disappear altogether, while relations transform themselves without fracture'. Law (2002: 100) argues that this 'fluid space' does not mean that 'anything goes'. Rather, 'fluid objects are enacted in practices which also recognise rupture', a concept that helpfully moves away from the 'functional managerialism' (Law and Mol 2001: 612) of ANT.

Law and Mol's work is useful for geographers because of their focus on space, especially in emphasising 'topological multiplicity rather than uniformity' (Mol and Law 1994: 644). This

means that different types of space may co-exist (Law 2002: 97): recognising fluid spaces does not mean that regional spaces should be cast aside because boundaries, while being 'social constructs', are very real and cannot be written away; they are part of social identities and the making of territory and place (Paasi 2003: 471). We should, therefore, interrogate regions and their boundaries closely to understand how they move, fold and blur (Mol and Law 2005: 637) and to understand how the MSC is involved in producing different kinds of space.

METHODOLOGY

The information we present here is drawn from an extensive review of MSC policy documents and certification reports and twenty-two face-to-face semi-structured interviews with representatives of the MSC (seven interviews), fish producers, processors and retailers (five), conservation organisations (three), Alaskan fisheries management bodies (three), Thames herring management bodies (two) and an MSC certification body. Participants were chosen by identifying key players in certification reports, in the objections procedures and by approaching the UK's leading fish retailers and processors. These interviews, conducted in 2004–2006, explored how the MSC operates in practice, as part of a larger project that examined how claims about various consumer goods (organic food and sustainable fish and timber) travelled over space. The interview participants have been anonymised here. The Alaskan and Thames case studies were chosen for comparison because of their vastly different sizes, the different number of species involved in each certification and for the different levels of interest in each by conservation groups. As two of the earliest certifications, they also provide an opportunity to examine how certification practice has changed over time.

THE MARINE STEWARDSHIP COUNCIL

To understand the practices of fisheries certification, some explanatory background to the MSC itself is necessary. A charitable NGO, it was established in 1997 through a partnership between Unilever and the World Wildlife Fund (MSC 2002a; for background to this partnership and the establishment of the MSC, see Constance and Bonanno 2000; Fowler and Heap 2000), to 'harness market forces and consumer power in favour of sustainable, well-managed fisheries' (May, Leadbitter, Sutton and Weber 2003: 17). It aims to do this by certifying fisheries against its Standard and subsequently allowing its logo to be used on products from these fisheries. Twenty-two fisheries had been certified by March 2007 (MSC 2007) and 332 MSC-labelled products were available in twenty-five countries by March 2006 (MSC 2006a: 1); in 2006, the MSC had a turnover of £2,502,202[1] (MSC 2006a: 21).

At the centre of the MSC's certification programme is a Standard, consisting of Principles and Criteria, developed from the UNFAO's Code of Conduct for Responsible Fisheries (MSC 2006b; see UNFAO 1995). The three Principles are:

1 ‘A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery’;

2 ‘Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends’; and

3 ‘The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable’ (MSC 2002b).

These, along with more precise Criteria, are used by third-party certification bodies, themselves accredited by the MSC, to assess the sustainability of fisheries that have applied to be certified. The Principles indicate the actors, processes and technologies that the MSC programme attempts to influence and control, and also how it attempts to separate out and conceptualise them. The first Principle focuses on the health of target fish populations; the second focuses on the health of the ecosystem (of which the target fish are a component); and the final Principle relates to the fishery management system. Each is relationally defined. The first, for example, is not just about the health of fish populations, but about how these relate to fishing activity. The second is not just about the health of ‘the ecosystem’, but about how fishing practices and technologies interact with a variety of species and ‘habitat’. Finally, Principle 3 is not just about MSC standards but about legislation and standards. All three are, therefore, inherently hybrid concepts, involving not just humans and fish but a complex mix of heterogeneous actants.

All three Principles involve either implicit or explicit spatial categories such as a fishery, an ecosystem, habitat and a management system. These categories are variously inclusionary and exclusionary. The second Principle, for instance, appears all-inclusive with its focus on ‘the ecosystem’. However, this Principle’s relational nature renders it potentially exclusionary, as some plants and animals may be considered either non-dependent or ecologically unrelated, depending on the methodology used to assess them.

In the next section, we begin to explore these hybridities and consider the contradictions and complementarities of the different spatialities. The two fisheries we use as examples were both first certified in 2000. The Thames herring fishery was certified for a single species, using existing management boundaries and involves, directly, only one method of fishing. It is on a very small scale, with 14.3 tonnes of fish landed in the 2003–2004 season (Nichols, Huntington and Hough 2005: 15). It was recertified in 2005.[2] The Alaskan salmon fishery is considerably larger, the average harvest being 276,931.6 tonnes per annum between 2000 and 2004 (Alaska Department of Fish and Game (ADFG) 2005). This fishery

involves five target species and four methods of fishing, and is currently undergoing recertification.

DEFINING FISH SPACE

Regional spaces

If the MSC is to carry out successfully its core task of preventing over-fishing, crucially it needs to define an object around which rules may be made and debate may be held. One of the means by which this is done is through the delimitation of an area with boundaries. In this section, we examine two of these bounded areas through Mol and Law's concept of regional spaces, where objects are clustered together within boundaries that promote inclusions and exclusions.

The definition of a 'unit of certification', one of the earliest stages of the MSC certification process, defines a hybrid collective (Latour 1999: 304) of fish, fishers, tools, technologies and policies: 'The fishery or fish stock (biologically distinct unit) combined with the fishing method/gear and practice (vessel(s) pursuing that stock)' (MSC 2005b: 1).

Hence, MSC certification is designed to involve not just a species of fish or a type of fishing but the relationship between these. The theme of movement is also once again implicit; it is notable that the definition does not refer to certification of a particular location.

The shaded area of Figure 1 is one interpretation of the definition. As noted, the most striking features of the Regulatory Area are its squareness and apparent rigidity. The map predates the MSC certification process; it is the result of a combination of national legislation (Medley and Nichols 2003: 138) and local byelaws (Kent and Essex Sea Fisheries Committee 2007), themselves partly the result of centuries of interactions between the fish and the humans who attempt to catch them. Only drift-net fishing may be carried out within the boundaries of the Regulatory Area; fishing for herring with trawlers is not permitted within the boundaries. The Area is physically policed by the Marine and Fisheries Agency[3] and the Sea Fisheries Committee; this Committee may impose a fine of up to £5,000 for any breach of its byelaws (Kent and Essex Sea Fisheries Committee 2007). The adoption of existing boundaries allows the MSC certifications to be incorporated more efficiently and conveniently into management practices.

However, the delimitation of a 'fishery', for the MSC, is not only about controls over the amount of fishing that takes place and the technology used. By definition, a 'fishery' is a complex socio-material construction (Mansfield 2003: 6; Waitt and Hartig 2005 make a similar argument for 'ocean spaces'), combining the apparent presence of species with fishing methods, fishers and a variety of legislation, and all of these need to be considered in the MSC's boundary-making. In relative terms, the fishers, their boats and tools might be easy to control and keep within the designated boundaries; they can be actively checked and policed. However, the boundaries have a very different purpose for the other actors

involved in the MSC network. The fish, for instance, are not controlled in the same way as the fishers, although their numbers and experiences are affected by what happens within this 'regional space'. In Lulka's study, humans attempted to produce physical boundaries that would contain the bison within a defined area. In contrast, the boundaries of Figure 1 are set with the explicit understanding that fish—and other animals or vegetation—will move beyond them (Nichols, Huntington and Hough 2005: 7). Indeed, at some times it is possible that no members of the certified fish species will be present within the unit of certification. This issue of fish moving beyond the management boundaries is returned to in a later section.

At the heart of the delimitation of the Thames herring fishery is the classification of the fish themselves. The Public Summary Report for the initial certification states that:

> Spring spawning herring forms a separate race of herring, of which there are a number of small stocks scattered around Europe. These herring have a smaller length at age and fewer vertebrae than the Atlantic herring, and is [sic] physically more similar to the Pacific herring. Tagging experiments indicate that the Thames Estuary herring stock is a self-contained unit, which does not show significant mixing with other similar stocks in nearby areas. These herring spawn exclusively within the Thames estuary late February to early May probably depending on water temperature. (SGS 2000: 7)

So in the certification process, the target species is defined quite specifically—through bodily characteristics, relationships with (some) other fish and physical location. Here, the fish are demonstrated to be specific to the Thames-Blackwater area and this is used to classify it as a 'selfcontained unit', despite the possibility of some mixing with other stocks. The 'unit' in Figure 1, therefore, bears little relation to fish distribution and movement, but marks where a certain type of fishing activity is permitted in an area in which the fish are sometimes present. The combination of physical existence, practice and regulation has brought a new space into being: rather than being something that has always been there for all to see, the map in essence enacts a new totality (Callon and Law 2004: 5), a space that appears to be governable.

The certification of Alaskan salmon bears many similarities to the certification of Thames herring. In some ways, its boundaries (for certification) are as abrupt as those of the Thames herring. The first certification report defines the fishery as:

> within the US territorial waters adjacent to the coast of the State of Alaska. It targets five species of Pacific salmon: sockeye (Oncorhynchus nerka); chum (O. keta); chinook (O. tshawytscha); coho (O. kisutch); and, pink (O. gorbuscha). Salmon are harvested by nets (drift and set gillnets, purse seine) and by trolling. The fishery occurs within management districts delineated by the Board of Fisheries (BOF) and is

> managed by the biological staff of the Alaska Department of Fish and Game (ADFG). (Chaffee et al., 2000: 5)

Once again, this illustrates how heterogeneous entities and practices are used to define a 'fishery': law, ownership, fish, scientific translations of fish, economic activity, technologies and management practices. While the certification report does not provide a map of the area, the fishery once again is represented cartographically by its management body (see Figures 2 and 3). Some boundaries are similar to those in Figure 1, being composed of straight lines and acute angles (Figure 2). Others relate more closely to the contours of the coastline (Figure 3). In a similar way to the Thames-Blackwater herring fishery, the boundaries of this fishery were provided by the Board of Fisheries—in other words, the entirety of the Alaskan waters in which salmon fishing takes place.

The Alaskan salmon fishery differs significantly from the Thames-Blackwater herring fishery in other aspects. It is divided, for management purposes, into various districts and areas, such as those in Figures 2 and 3 (see ADFG 2006b). For the recertification, which began in 2005, the certification body devised a new set of sixteen certification units to replace the previous single unit (Scientific Certification Systems 2006). The new units largely correspond to the ADFG's regulatory areas. In some cases these have been combined or, when different issues affect different species and 'gear types', they have been split into more than one unit. So, like the Thames herring certification, the Alaskan salmon certification uses pre-existing 'regional spaces', but adapted to differentiate between combinations of species; in some areas all five species of Pacific salmon are going through the certification process, whereas in others only two are. Treating different species collectively suggests that they all have the same requirements, face the same problems and are treated in the same ways by fishers. Nonetheless, the new divisions do acknowledge that different fishing methods can have different effects on their targets and others. Sockeye salmon, for example, are targeted by both drift gillnets and by seine nets in the Southeast Area, so the certification body identifies two sockeye fisheries in the Southeast and assesses them separately to differentiate the effects. So, as with the Thames herring, these areas correspond largely to management units and fishing technologies; the presence and movement of fish themselves are almost incidental.

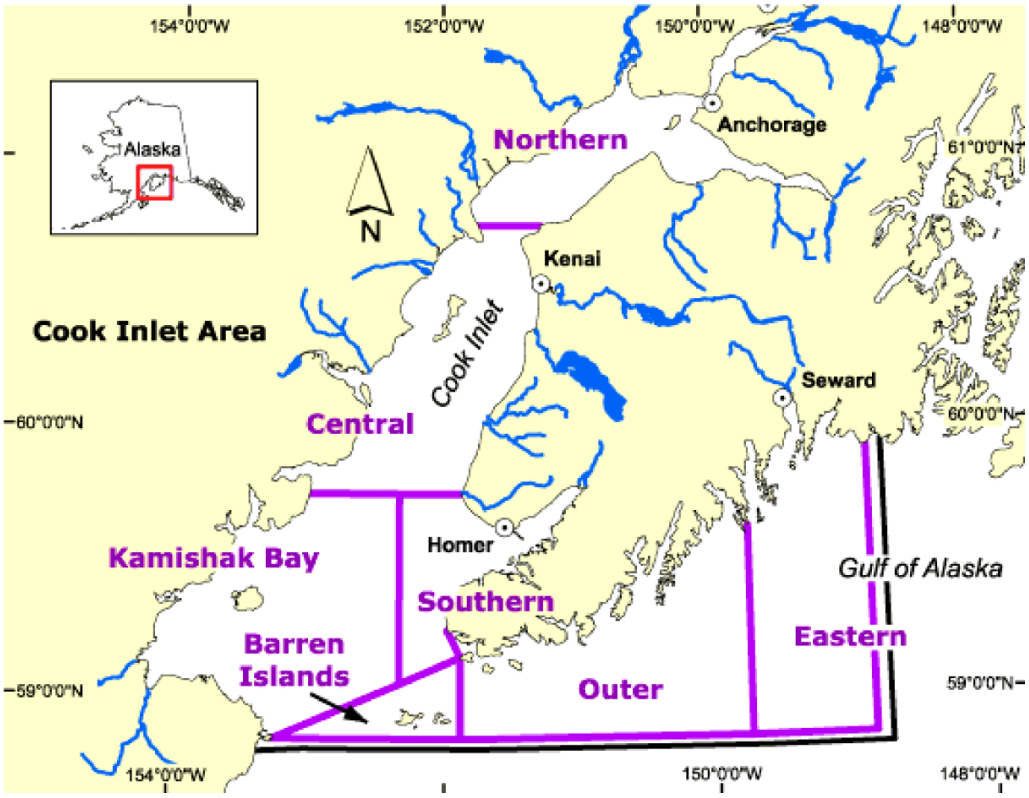

Figure 2 Salmon fishery districts around the Cook Inlet and Gulf of Alaska (ADFG 2004). ©ADFG. Used with permission.

The units of certification for the Alaskan salmon are, then, hybrid collectives that are made of fish, themselves categorised into five species, technologies (the different types of fishing that take place) and management units, not to mention the other animals that they mix with. The units are also composed of absences. Table I, for instance, denotes the composition of a certification unit with a series of crosses to show which species are included in each unit. The absence of a cross does not necessarily mean that a species is absent from an area but that it is absent from certification; while the Upper Cook Inlet area is only being assessed for sockeye salmon, for instance, chinook, coho, pink and chum salmon are also present, though catches of these other species are significantly smaller.[4]

This section has hinted at some of the ways in which cartographic boundaries have been used to enrol various actors and processes into the MSC network. However, it is not clear that the fish themselves have been enrolled as they continue to move freely outside the bounded space. In addition, some of the categorisations into which they have been placed rely on not just the fish themselves but their relationship with fishing processes and technologies. Fisheries science, St Martin argues (2005: 962), involves 'cartographic practices that construct an abstract space of resources devoid of social, cultural, or community processes'. If the maps in Figures 1–3 were the extent of the MSC certification process, similar could be claimed of MSC certifications. However, we show in the following two sections that the maps are not sufficient to characterise certifications and the MSC has recourse to Mol and Law's other spaces.

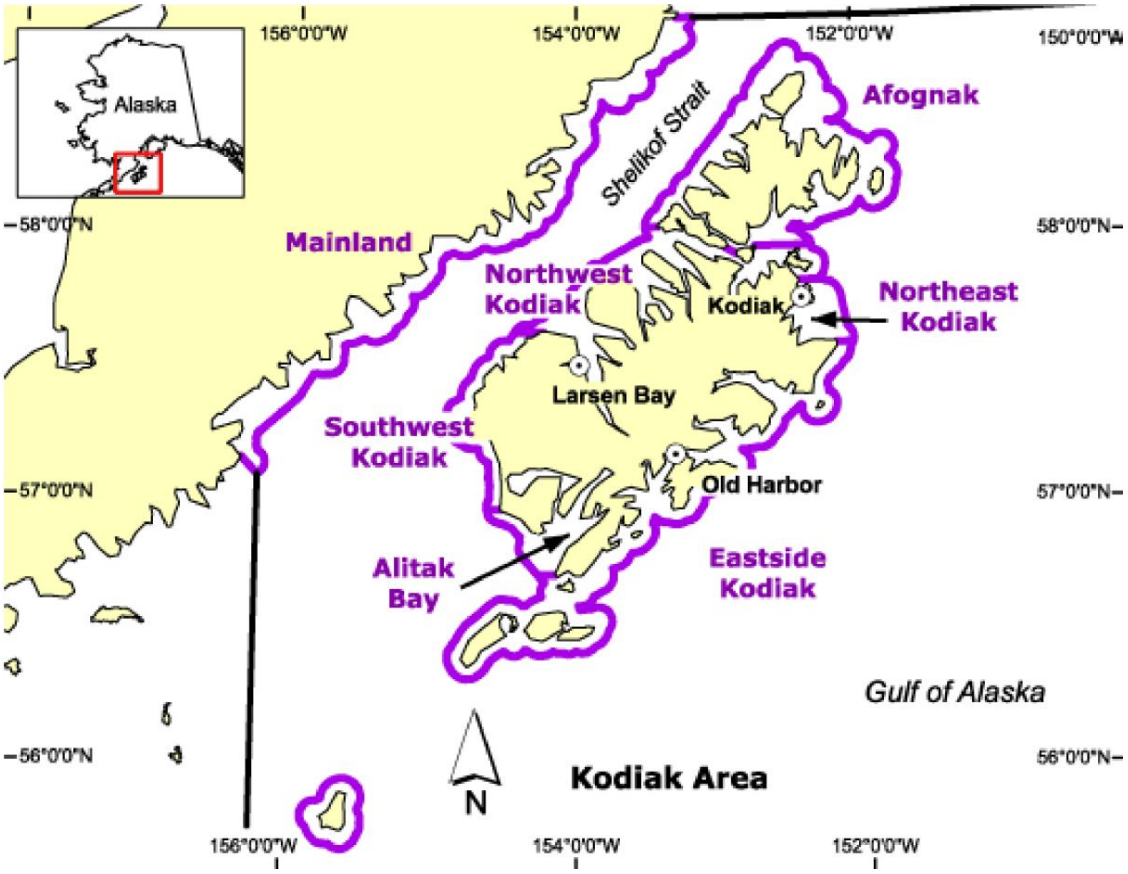

Figure 3 Salmon fishery districts around Kodiak Island, Alaska (ADFG 2006a). © ADFG. Used with permission.

NETWORK SPACES

The MSC can be viewed as a network of heterogeneous actors. Constance and Bonnano (2000) have highlighted some of the ways in which the embryonic MSC attempted to enrol actors into its network in order to establish its credibility. These actors include consumers of fish, retailers, fishers and fishing companies, conservation organisations and Governments. In this paper, our interest is more to examine the effects of the MSC's network approach on its treatment of fisheries, rather than to investigate the network-building itself. Each fishery is not viewed in isolation but in relation to other certified fisheries—they are emblematic of Mol and Law's (1994: 643) network space, where 'two or more locations that are far away from each other on a regional map' are brought together through a relational topology. While regional space involved the imposition of boundaries around Euclidean space, the MSC's relational approach folds the 'planes of regional worlds' (Mol and Law 1994: 652–653), bringing geographically distant fisheries closer together.

Table I Units of certification for the re-certification of the Alaskan salmon fisheries (SCS 2006)

			Target species in each unit				
Certification units	Regulatory area	Gear type	Chinook	Sockeye	Coho	Pink	Chum
1	Southeast	Drift gillnet	X	X	X	X	X
2	Southeast	Seiine		X		X	X
3	Southeast/Yakutat	Troll	X		X		
4	Yakutat	Set gillnet		X	X		
5	Prince William Sound	Seine, gillnet		X		X	X
6	Copper/Bering Districts	Drift gillnet	X	X	X		
7	Lower Cook Inlet	Seine, set gillnet		X		X	
8	Upper Cook Inlet	Gillnet		X			
9	Bristol Bay	Gillnet	X	X	X		
10	Yukon River	Gillnet, fishwheel	X		X		X
11	Kuskokwim	Gillnet	X	X	X		X
12	Kotzebue	Set gillnet					X
13	Norton Sound	Gillnet	X		X	X	X
14	Kodiak	Gillnet, seine		X	X	X	X
15	Chignik	Seine		X			X
16	Peninsula/Aleutian Is.	Seine, gillnet		X	X	X	X

For example, whereas the Thames herring fishery certification dealt largely with the geographical area around the Thames estuary, the recertification of Alaskan salmon is being very significantly influenced by the certification of other fisheries. After the initial certification of the Alaskan salmon in 2000, other salmon fisheries on the West Coast of North America applied for MSC certification but it in a rather different way: not as single units but as a number of components—the British Columbian salmon fishery as forty separate units (Chaffee, English, Joseph and Schmidt 2003: 2) and the Californian Chinook salmon fishery as three units (Chaffee, Botsford, Ruggerone and Gaudett 2004: 2). The need for this sort of approach was highlighted by an Alaska-based conservation organisation. Responding to the suggestion that the salmon fishery certification had been quite

uncontroversial, a conservationist commented that certifying the entire fishery diverted attention away from some of the problem areas:

> In North West Alaska it's totally like a salmon disaster area. They haven't even been able to take subsistence take of salmon in the Northern Sound area at different times. (interview, 2006)

To address such criticisms, the recertification units were split up to enable spatial differentiation. According to one of the ADFG managers, who talked about the differences between the first and second certifications, there was concern amongst some of the other fisheries that all fisheries should be treated in a similar way to each other:

> The way that that's been portrayed to us was that there were some complaints—particularly from Canadians—that Alaska got off easy in the original certification process. (interview, 2006).

Indeed, a Director of an international conservation body, when asked about the strength of the MSC Standard, commented that:

> when you look at the first round of certifications, you see a lack of evenness and consistency and fisheries being treated differently from one another and arguably some being treated too tough and in other cases too easy. (interview, 2006)

In response, the MSC has developed a strategy to promote 'quality and consistency' throughout their certifications (MSC 2005a). If networks can gather 'diverse places and times within common frames of reference and calculation', and 'distant points [find] themselves connected to one another while others, that were once neighbours, come to be disconnected' (Murdoch 1998: 360), the distant points here are represented by the Californian and British Columbian salmon fisheries. The neighbours might be seen as the Alaskan pollock fishery (to take an obvious example), which, in spite of operating in some of the same waters as the Alaskan salmon fishery, was certified separately and merits not a single mention in the original Alaskan salmon certification Summary Report (Chaffee, Botsford, Alverson and Krasnowski 2000). While the more detailed study of individual fishery components is likely to please the conservation groups in the recertification, fishery managers and industry are less sure. When asked about how the process might continue to change, the ADFG manager commented:

> In the original five years we had to do this sort of stuff [meeting a number of conditions of certification]. We complied with it, we were judged to have done an adequate job at it. But we come around for a second time around, much more performance indicators, a finer scale of inspection. (interview, 2006)

The fishery manager found this change in certification procedure hard to understand. As far as he was concerned, it is the same fishery that was certified in 2000—why, then, should it be analysed and categorised differently in 2005?

Here, we see how different spaces may begin to overlap. While the manager felt he had been dealing with the same fishery for a number of years, the MSC network has grown and changed, which means that the unit of certification, the object of governance, has changed. A key characteristic of Mol and Law's regional spaces was the suppression of differences inside any 'region' (1994: 646). Here, we have shown the network topologies to have a similar effect. The effect of the network bringing these geographically distant regions topologically closer is, again, to suppress difference and standardize their treatment—the great concern of the fishery manager quoted above. In some ways, the network serves to fold and disrupt space but, in other ways, it actually serves to flatten it, through its suppression of difference. According to Mol and Law (1994: 652), '[t]he folded surface of the region starts to flatten out and the space-time tunnel of the network dissolves' when a network fails. We argue here, though, that networks (in this case) produce a kind of space that is at once folded and flattened, uniting and enrolling distant elements but standardising the ways in which these are treated. This standardisation — albeit in a different way — reflects St Martin's (2005: 966) arguments about the 'relegation of difference' in fisheries science (and management). It also suggests the existence of a quite stable network. However, Mol and Law's third type of space highlights problems with this.

Fluid spaces

While both the Thames herring and Alaskan salmon fisheries are defined by cartographic boundaries and—especially in the Alaskan case—are affected by their situation in the MSC's networks, the fish that help to define them are not always present. The fluidity of the seas allows the fish to swim relatively freely; while inspection boats may police the fishers, no equivalent exists for the fish. If a key aim of boundaries is to render a regional space governable, the movement of the fish and the materiality of the seas potentially pose a significant problem for the MSC certification system. Mol and Law offer a third kind of space, 'fluid space', which offers a helpful route to thinking through these issues. In this, 'difference . . . isn't necessarily marked by boundaries. It isn't always sharp. It moves . . . elements inform each other. But the way they do so may continuously alter. The bonds within fluid spaces aren't stable' (Mol and Law 1994: 662–663).

In the Thames herring fishery, movement of fish beyond the boundaries is not just occasional and small-scale; they 'effectively disappear from fisheries' between May and October (Nichols, Huntington and Hough 2005: 7). The boundaries in Figure 1 are not only square and straight but they are also, therefore, distinctly atemporal. A simple response to this situation would be to certify that the fishing operation within the marked area was carried out in a sustainable manner; when the fish leave the area, the fishing stops and is of no concern. However, the nature of certification—and of classifying what is being certified—

is complicated further as the MSC insists that when a certification involves only a portion of a biologically determined fish stock, 'the assessment must always consider the effects of all extractions from that stock, including those in fisheries (or sectors) that are not being considered for certification' (MSC 2005b: 1). Neither the regional space of the cartographies nor the network space of the previous section captures the spatiality of this assertion.

This idea of assessing what is beyond the fishery suggests an unexpected fluidity of the certification, in addition to the physical fluidity of the water and the fish that are being studied, as the certification also extends considerably beyond the fishery boundaries. In this way, the certification space has the potential to change and adapt as necessary, whether it is because the fish change their migration habits or because a new fishing operation begins—one of the reasons for recertifying fisheries every five years.

The situation here is reminiscent of Massey's (2006) observations on plate tectonics. There, 'the Lake District' has been given cartographic boundaries, even though the land of which it is composed continues to move and evolve (2006: 38). This led Massey to an understanding of space and landscape 'as provisionally intertwined simultaneities of ongoing, unfinished, stories' (2006: 46). While mountains are often viewed as stable, long-lasting features, the composition and currents of seas make them more explicitly fluid. The idea that certification is of a particular place, as cartographic definitions suggest, therefore becomes problematic, as the area mapped does not offer a stable grounding. The fluid space of the seas is an ongoing story characterised by the movement of the water, an evolving seabed and coastal erosion and deposition. The fish themselves contribute to this story through their own movements and adaptations to their changing surroundings.

This is not to suggest, though, that this fluidity renders the MSC system as a failure. In the two certifications of the Thames herring fishery, a simple boundary was adopted from existing management practice to denote the location of a fishery. The MSC programme recognises that such boundaries are insufficient to control the relational activities of fish, humans and other animals. As a result, the certifier has attempted to follow the fish, using the Centre for Environment, Fisheries and Aquaculture Science's (CEFAS) data on the health of individual fish and the genetic composition of stocks (SGS 2000: 8). As these data stem from the records and catches of fishers, they provide a necessarily partial view of the fishes' existence. While the MSC acknowledges the fluidity of the spaces with which it deals, the certifications have been constrained by the amount of research that had previously been conducted and by the lack of money and time available for carrying out additional studies for the certifications themselves. The MSC recognises that research is sometimes lacking and, therefore, views its policy of re-certification every five years as an accommodation of the fluidity of both the fisheries and of the knowledge that underpins their management. As one MSC manager commented when asked about how the approach to certification was changing:

> Our understanding has changed . . . of the science behind environmental impacts. We understand more about complex food chains, all these kind of things. So I think it would be a real down if we had done it exactly the same. It would mean that no learning has gone on for the last five years. (interview, 2006).

And so the fish continue to swim, interbreeding between species, being intercepted by predators and by the technologies of the fishing industry which, themselves, change as a result of the movements of the fish, consumer demand and regulations. Indeed, the MSC certifications implicitly acknowledge these fluid spaces by encompassing more than the standard management areas; they effectively acknowledge that the fish themselves are beyond control and that, despite the programme's scientific underpinnings, knowledge of the fish is often quite partial. This does not preclude certification of a fishery as sustainable; the emphasis was, from the beginning, management and harvesting practices, rather than the lives of the fish.

CONCLUSIONS

In this paper, we have attempted to highlight some of the multiple spatialities of MSC certifications. It would have been possible to analyse these certifications through any one kind of spatiality, but we argue that a greater spatial sensitivity to the processes operating leads to a deeper understanding of how the certifications work. The certification process does not merely impose boundaries. Rather, as we have shown, the boundaries are the result of heterogeneous relationships in hybrid networks, themselves also partly the result of boundaries. An ANT approach is, therefore, useful, in that it highlights the variety of actors involved throughout the MSC processes. Contrary to St Martin's (2005: 962) assertions that the cartographies of fisheries science are 'devoid of social, cultural, or community processes', this approach shows that these processes are present in the cartographies, if more implicitly than explicitly.

It could be argued that the fish are 'disrupting' the MSC's network in a similar way to Callon's 'dissident' scallops of St Brieuc Bay (Callon 1986). Here, 'disruption' and 'dissidence' are probably the wrong words. Once again, even with the strict boundaries of the Thames herring certification map and the species delimitations of the Alaskan salmon certification, the MSC system puts little effort into attempting to 'stabilise the identities' of the fish (cf. Callon 1986: 207–208). In both these certifications, it attempts to define the species in some way—asserting differences in vertebrae numbers, otolith shape and spawning time between Thames herring and the rest of the North Sea herring stock, for instance (Nichols, Huntington and Hough 2005: 7). However, in acknowledging that their precise movements are unknown, the certification avoids stabilising every aspect of the fish. It might, then, be argued that the MSC certification network, by offering a weak definition of the fish, is strengthened by its acknowledgement of fluidity; it recognises that rupture is inevitable.

We argue that the need to acknowledge this fluidity stems partly from the actions of the fish themselves. The fish, in Mol and Law's terms, are distinctly fluid 'objects', in distinctly fluid spaces. Their movements disrupt the managerialist network and regional spaces of the MSC, which rely partly on science that the fish, through their movements, evade. Equally, their movements transform the ways in which they are represented: from certifiable as sustainably caught to uncertifiable, for instance. Their identities are unstable. Identity and classification, therefore, are not characteristics solely of the fish themselves, or of the MSC and others involved in fisheries management. Rather, the identity of the fish is partly the result of the regional spaces through which they travel (determining whether they may legally be caught and whether this catching may be classified as sustainable). In turn, these regional spaces are partly the result of the MSC network, which influences their characteristics and folds cartographic space in such a way that fisheries thousands of miles from each other may be mutually constitutive. Finally, the fish perform their own identities through their actions, which include their movement through the water. A challenge for future work on the fluidity of 'animal spaces' (Philo and Wilbert 2000) is to consider the role and creation of fluidity through the animals' own subjectivities; that is, to recentre the analysis on the animals themselves rather than on the systems and processes of which they are a part. Here, though, we have shown some of the ways in which it is useful to analyse hybrid geographies through hybrid spatialities. While ANT has given great insights into the heterogeneity of relationships, we argue that attention to multiple spatialities can shed considerably greater light on the various roles and processes that compose this hybridity.

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NOTES

[1] Seventy-five per cent is from charitable foundations; 7 per cent comes from fees charged for the use of its logo. 'Outreach' to fisheries and commercial concerns accounts for 44 per cent of expenditure and 'policy and maintenance of standards' for 26 per cent (MSC 2006a).

[2] MSC certificates last for five years. After this, a fishery must apply to be re-certified if it wishes to retain its status.

[3] The Marine and Fisheries Agency has responsibility in UK waters for 'enforcing sea fisheries regulations' (Marine and Fisheries Agency 2005). Its officers may board fishing vessels in UK waters to inspect their catches and tools.

[4] Estimated catches in the Upper Cook Inlet for 2006 were: chinook—18,501; sockeye—2,214,124; coho—175,580; pink—399,296; and chum—65,489 (ADFG 2007).

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ABSTRACT TRANSLATIONS

Faire une place aux poissions: les espaces régionaux, réseaux et fluides de certification des pêcheries

Cet article présente une étude des diverses spatialités des certifications délivrées par le Marine Stewardship Council (MSC) qui inscrit dans le cadre de son programme d'étiquetage écologique la promotion de la gestion durable des pêcheries. Il est possible d'utiliser le logo créé par le MSC sur les produits commercialisés par des pêcheries certifiées. La démarche de certification débouche sur une définition d'une «pêcherie» qui implique l'établissement des limites d'un site particulier. Bien que ces limites suggèrent que chaque pêcherie dispose d'un territoire exclusif, ces espaces régionaux sont intégrés au réseau du MSC et sont donc envisages sous l'angle des relations. Le recours à des limites de superficie constitue un problème majeur en raison de la réalité matérielle de la mer: les littoraux se modifient, les poissons se déplacent, l'eau bouge, et les navires circulent. Pour déployer son programme avec succès, le MSC doit être en mesure de reconnaître cette fluidité spatiale, la non étanchéité des limites et le mouvement des acteurs. Nous faisons valoir l'importance d'accorder une attention particulière aux diverses spatialités et ainsi mieux saisir le rôle que jouent les êtres non humains dans l'expression de géographies hybrides.

Mots-clefs: Marine Stewardship Council, certification des pêcheries, limites, théorie de l'acteurréseau, espaces fluides, géographies hybrides.

Haciendo un lugar para los peces: los espacios regionales y de redes y los espacios fluidos de la certificación de pesquerías

En este papel examinamos las múltiples espacialidades de las certificaciones del Marine Stewardship Council (MSC). El MSC emplea su etiqueta medioambiental para promover la gestión sostenible de las pesquerías: su etiqueta puede ser utilizada en los productos de las pesquerías acreditadas. El proceso de certificación implica la definición de una 'pesquería'.

Para ello, hay que definir los límites de una localidad concreta. Aunque estos límites sugieren exclusividad para cada pesquería, estos espacios regionales se entrelazan también con la red del MSC y por lo tanto, son interpretados de manera relacional. Las materialidades del mar también hacen que el uso de límites areales resulte problemático: las costas van cambiando, los peces se mueven y los barcos viajan. Para hacer de este proyecto un éxito, el MSC tiene que reconocer esta fluidez espacial, reconociendo la ruptura de los límites y el movimiento de los actores. Sugerimos que la prestación de atención a la multiplicidad de espacialidades ayuda a centrar la atención en el papel de los no humanos en el desarrollo de las geografías híbridas.

Palabras claves: Marine Stewardship Council, certificación de pesquerías, límites, actor, la teoría de redes, espacios fluidos, las geografías híbridas.